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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/844,309	04/27/2001	James Horan Carey	5577-231	1223
20792	7590	11/22/2005	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC			PHILPOTT, JUSTIN M	
PO BOX 37428			ART UNIT	
RALEIGH, NC 27627			PAPER NUMBER	
			2665	

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/844,309	Applicant(s) CAREY ET AL.	
	Examiner Justin M. Philpott	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-20, 22, 27-35, 37 and 45-52 is/are rejected.
- 7) ☒ Claim(s) 5-10, 21, 23-26, 36 and 38-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed September 14, 2005 have been fully considered but they are not persuasive.
2. Specifically, applicant argues (pages 15-16) that Rao does not teach translating if addresses have been previously translated as recited in applicant's claim 1. However, first, as discussed in the previous office action, and repeated herein, Rao teaches translating IP addresses located in a payload of the packet (e.g., IP addresses added as overhead to payload data 36, see col. 3, lines 49-58) if at least one of a source address (e.g., source address 42) and a destination address (e.g., destination address 44) located in a packet header (e.g., header 34) has been previously translated (e.g., by its listing in application table 68, see col. 5, line 60 – col. 6, line 7; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable).

Second, in response to applicant's particular argument that Rao teaches translating if addresses are of a determined "type" and not if addresses have been "previously translated", Rao further specifies that "translated addressing information is embedded into the payload data 36" (col. 6, lines 31-32) and that "each record [e.g., in table 68] includes a packet *genus* identifying a packet *type capable* of including embedded addressing information and a packet *species* identifying packets of the *type that include embedded addressing information*" (col. 7, lines 4-8) (emphasis added). That is, while Rao teaches the "type" (identified by "genus") referred to by applicant, Rao additionally teaches a separate identification or type (identified by "species") for

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records to identify which packets in fact include embedded addressing information.

Accordingly, by disclosing that addressing information which has been translated is “embedded into the payload data 36” (col. 6, lines 31-32), and by disclosing a species identifies packets having such embedded addressing information, it follows that the species identifier in Rao clearly identifies packets with addressing information that inherently have previously been translated. Accordingly, applicant’s argument that Rao does not teach the “previously translated” limitation in applicant’s claim 1 is not persuasive.

3. Further, applicant argues (pages 17-19) that there is no motivation to shift the location of parts in Rao to a configuration according to applicant’s claim 34. However, as discussed in the previous office action, and repeated herein, while Rao in view of Srisuresh may not specifically disclose separating operations of the device between a particular first device and a particular second device, it is generally considered to be within the ordinary skill in the art to shift the location of parts absent a showing of unexpected results. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to shift the location of translation of the packet header from the device to a particular first device, and to shift the location of translation of IP addresses in a payload from the device to a particular second device, since it is generally considered to be within the ordinary skill in the art to shift the location of parts absent a showing of unexpected results. The contention of obvious choice in design can be overcome if Applicant establishes unexpected results. In re Japikse, 86 USPQ 70 (CCPA 1950).

With respect to the above argument, applicant fails to show unexpected results, and has chosen instead to argue that Rao, considered independently, does not provide motivation to shift the location of parts in the system of Rao in view of Srisuresh. Accordingly, applicant has not

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provided a persuasive argument in response to the Examiner's contention that at the time of the invention it would have been obvious to one of ordinary skill in the art to shift the location of translation of the packet header from the device to a particular first device, and to shift the location of translation of IP addresses in a payload from the device to a particular second device, since it is generally considered to be within the ordinary skill in the art to shift the location of parts absent a showing of unexpected results. The contention of obvious choice in design can be overcome if Applicant establishes unexpected results. In re Japikse, 86 USPQ 70 (CCPA 1950).

4. Finally, applicant argues (pages 19-20) that Examiner has only provided "subjective belief and unknown authority" for motivation to combine the teachings of Srisuresh with the teachings of Rao. However, as discussed in the previous office action, and repeated herein, Srisuresh, like Rao, also teaches a method of packet processing including address translation, and specifically, the teachings of Srisuresh provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility (e.g., see Srisuresh at col. 2, lines 45-65 -- applicant is further directed specifically to lines 52-53 regarding "reduced cost of equipment and reconfigurations" and line 61 regarding "multi-protocol support"). That is, Srisuresh provides clear motivation to combine, and the motivation relied upon by the Examiner in the rejection of applicant's claims is that of Srisuresh's, not Examiner's own subjective belief or unknown authority as asserted by applicant. Accordingly, applicant's argument is not persuasive.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 17, 18, 20, 22, 27-29, 33 and 49-52 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,535,511 to Rao.

Regarding claim 1, Rao teaches a method of processing a packet, comprising: translating IP addresses located in a payload of the packet (e.g., IP addresses added as overhead to payload data 36, see col. 3, lines 49-58) if at least one of a source address (e.g., source address 42) and a destination address (e.g., destination address 44) located in a packet header (e.g., header 34) has been previously translated (e.g., by its listing in application table 68, see col. 5, line 60 – col. 6, line 7; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable) (see also col. 6, lines 31-32 regarding “translated addressing information is embedded into the payload data 36”, and col. 7, lines 4-8 regarding “each record [e.g., in table 68] includes a packet genus identifying a packet type capable of including embedded addressing information and a packet species identifying packets of the type that include embedded addressing information”).

Regarding claim 17, Rao teaches at least one of the source address (e.g., source address 42) and the destination address (e.g., destination address 44) located in the packet header (e.g., header 34) is previously translated by a router (e.g., see col. 3, lines 5-48 regarding router 16).

Regarding claim 18, Rao teaches a method of processing a packet, comprising: determining if at least one of a source address (e.g., source address 42) and a destination address (e.g., destination address 44) located in a packet header (e.g., header 34) is present in a set of translation rules (e.g., record 70 in application table 68, see col. 5, line 60 – col. 6, line 50); searching a payload (e.g., payload 36) of the packet for IP addresses if it is determined that at least one of a source address and a destination address is present in the set of translation rules (e.g., see steps 96, 98 and 100 in FIG. 4); and translating the IP addresses in the payload of the packet using the set of translation rules (e.g., record 70 of the application table, see step 102 in FIG. 4 and col. 5, line 60 – col. 6, line 50; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable).

Regarding claim 20, Rao teaches translating the IP addresses comprises replacing at least one occurrence of an IP address located in the payload of the packet (e.g., see col. 6, lines 21-50).

Regarding claim 22, Rao teaches searching the payload of the packet for the IP address comprises: identifying an occurrence of an IP address in the payload of the packet (e.g., see col. 5, line 60 – col. 6, line 20); determining a corresponding normalized IP address (e.g., translated address, see col. 6, lines 21-30) for the occurrence of the IP address using the set of translation rules (e.g., record 70 in application table 68) that the at least one of the source address and the destination address was determined to be present in; and repeating the identifying and determining for each occurrence of an IP address in the payload (e.g., see col. 6, lines 27-30 regarding translating a plurality of IP addresses as opposed to only a single occurrence of an IP address); wherein translating IP addresses comprises replacing at least one occurrence of an IP

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address located in the payload of the packet with the corresponding normalized IP address (e.g., see col. 6, lines 31-33).

Regarding claim 27, Rao teaches the set of translation rules (e.g., records 70 in application table 68) comprises a list of each IP address that has been translated (e.g., according to addresses 42 and 44) (e.g., see col. 6, lines 1-7) and a corresponding normalized IP address (e.g., translated IP address, see col. 6, lines 31-43 and specifically lines 31-35) for each IP address that has been translated (e.g., see col. 5, lines 33-42 regarding updating for each entry 70 that is operable).

Regarding claim 28, Rao teaches the set of translation rules comprises a first set of translation rules that correspond to a first customer (e.g., one of hosts 20, see FIG. 1) and a second set of translation rules that correspond to a second customer (e.g., another of hosts 20) (e.g., see col. 5, lines 33-42 regarding a new application host 20 corresponding to application entry 72 in application table 68).

Regarding claim 29, Rao teaches the set of translation rules that correspond to the first customer (e.g., according to the application 72 of the first host 20) are unique with respect to the set of translation rules that correspond to the second customer (e.g., another of hosts 20 corresponding to a new application, see col. 5, lines 33-42).

Regarding claim 33, Rao teaches at least one of the source address (e.g., source address 42) and the destination address (e.g., destination address 44) located in the packet header (e.g., header 34) is previously translated by a router (e.g., see col. 3, lines 5-48 regarding router 16).

Regarding claim 49, Rao teaches a system for processing a packet, comprising: means for translating IP addresses located in a payload (e.g., payload 36) of the packet if at least one of

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a source address (e.g., source address 42) and a destination address (e.g., destination address 44) located in a packet header (e.g., header 34) has been previously translated (e.g., see col. 5, line 60 – col. 6, line 50; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable).

Regarding claim 50, Rao teaches system for processing a packet, comprising: means for determining if at least one of a source address (e.g., source address 42) and a destination address (e.g., destination address 44) located in a packet header (e.g., header 34) has been previously translated (e.g., by its listing in application table 68, see col. 5, line 60 – col. 6, line 7; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable; see also col. 6, lines 31-32 regarding “translated addressing information is embedded into the payload data 36”, and col. 7, lines 4-8 regarding “each record [e.g., in table 68] includes a packet genus identifying a packet type capable of including embedded addressing information and a packet species identifying packets of the type that include embedded addressing information”) and is present in a set of translation rules (e.g., record 70 in application table 68, see col. 5, line 60 – col. 6, line 50); means for searching a payload (e.g., payload 36) of the packet for IP addresses if it is determined that at least one of a source address and a destination address has been previously translated (e.g., see col. 5, line 60 – col. 6, line 7; see also col. 5, lines 33-42; see also col. 6, lines 31-32; see also col. 7, lines 4-8) and is present in the set of translation rules (e.g., see steps 98 and 100 in FIG. 4); and means for translating the IP addresses in the payload of the packet using the set of translation rules (e.g., see steps 102, 104 and 106, and col. 5, line 60 – col. 6, line 50; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable).

Regarding claim 51, Rao teaches a computer program product for processing a packet, comprising: a computer readable program medium having computer readable program code embodied therein (e.g., see col. 4, lines 20-35 regarding computer software), the computer readable program code comprising: computer readable program code which translates Internet Protocol (IP) addresses located in a payload (e.g., payload 36) of the packet if at least one of a source address (e.g., source address 42) and a destination address (e.g., destination address 44) located in a packet header (e.g., header 34) has been previously translated (e.g., see col. 5, line 60 – col. 6, line 50; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable).

Regarding claim 52, Rao teaches a computer program product for processing a packet, comprising: a computer readable program medium having computer readable program code embodied therein (e.g., see col. 4, lines 20-35 regarding computer software), the computer readable program code comprising: computer readable program code which determines if at least one of a source address (e.g., source address 42) and a destination address (e.g., destination address 44) located in a packet header (e.g., header 34) has been previously translated (e.g., by its listing in application table 68, see col. 5, line 60 – col. 6, line 7; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable; see also col. 6, lines 31-32 regarding “translated addressing information is embedded into the payload data 36”, and col. 7, lines 4-8 regarding “each record [e.g., in table 68] includes a packet genus identifying a packet type capable of including embedded addressing information and a packet species identifying packets of the type that include embedded addressing information”) and is present in a set of translation rules (e.g., records 70 in application table 68) (e.g., see col. 5, line 60 – col. 6,

line 50; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable); computer readable program code which searches a payload of the packet for IP addresses if it is determined that at least one of a source address (e.g., source address 42) and a destination address (e.g., destination address 44) has been previously translated (e.g., see col. 5, line 60 – col. 6, line 7; see also col. 5, lines 33-42; see also col. 6, lines 31-32; see also col. 7, lines 4-8) and is present in the set of translation rules (e.g., in a record 70 of application table 68) (e.g., see steps 98 and 100 in FIG. 4); and computer readable program code that translates the IP addresses in the payload of the packet using the set of translation rules (e.g., see col. 5, line 60 – col. 6, line 50; steps 102, 104 and 106 in FIG. 4; and see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-4, 11-14, 19, 30, 34, 35, 37, 45 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao in view of U.S. Patent No. 6,058,431 to Srisuresh et al.

Regarding claim 2, Rao teaches the method discussed above regarding claim 1, and further, teaches receiving a packet at an address translator device (e.g., step 90, see col. 5, lines 51-59 and FIG. 4); determining if at least one of the source address and the destination address located in the packet header has been previously translated to a normalized IP address (e.g.,

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determining if source address 42 or destination address 44 is listed in application table 68, see col. 5, line 60 – col. 6, line 50; see also FIG. 4); and searching the payload of the packet for IP addresses if it is determined that at least one of the source address and the destination address located in the packet header has been previously translated (e.g., see steps 96 and 98); wherein translating IP addresses comprises replacing at least one occurrence of an IP address located in the payload of the packet (e.g., see step 104). However, Rao may not specifically disclose translating is performed by a network address translator (NAT), but rather, Rao utilizes a port address translator (PAT) (col. 3, lines 40-48). However, Rao also discloses that the method may utilize other suitable types of addressing and translation systems (col. 5, lines 46-50).

Srisuresh also teaches a method of packet processing including address translation, and specifically, teaches port address translation (NAPT) is a particular type of NAT (col. 4, lines 44-54) and that generally, a method utilizes NAPT for customers who are assigned only one globally unique IP address and NAT for customers who are assigned a set of globally unique IP addresses (col. 3, lines 37-42). Additionally, the teachings of Srisuresh provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility (e.g., see col. 2, lines 45-65). Thus, at the time of the invention it would have been obvious to apply the teachings of Srisuresh to the method of Rao, such that the translator comprises a NAT for operation with customers who are assigned a set of globally unique IP addresses, in order to provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility.

Regarding claim 3, Rao teaches wherein determining if at least one of the source address and the destination address located in the packet header has been previously translated

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comprises: identifying the source address and the destination address in the packet header (e.g., identifying source address 42 or destination address 44, see col. 5, line 60 – col. 6, line 50); and determining if at least one of the source address and the destination address is present in a set of translation rules (e.g., determining if source address 42 or destination address 44 is present in set of records 70 in application table 68, see col. 5, line 60 – col. 6, line 20); wherein at least one of the source address (e.g., source address 42) and the destination address (e.g., destination address 44) has been previously translated if it is determined that at least one of the source address and the destination address is present in a set of translation rules (e.g., see col. 5, lines 33-42 regarding updating for each entry 70 that is operable).

Regarding claim 4, Rao teaches searching the payload of the packet for the IP address comprises: identifying an occurrence of an IP address in the payload of the packet (e.g., see col. 5, line 60 – col. 6, line 20); determining a corresponding normalized IP address (e.g., translated address, see col. 6, lines 21-30) for the occurrence of the IP address using the set of translation rules (e.g., record 70 in application table 68) that the at least one of the source address and the destination address was determined to be present in; and repeating the identifying and determining for each occurrence of an IP address in the payload (e.g., see col. 6, lines 27-30 regarding translating a plurality of IP addresses as opposed to only a single occurrence of an IP address); wherein translating IP addresses comprises replacing at least one occurrence of an IP address located in the payload of the packet with the corresponding normalized IP address (e.g., see col. 6, lines 31-33).

Regarding claim 11, Rao teaches the set of translation rules (e.g., records 70 in application table 68) comprises a list of each IP address that has been translated (e.g., according

to addresses 42 and 44) (e.g., see col. 6, lines 1-7) and a corresponding normalized IP address (e.g., translated IP address, see col. 6, lines 31-43 and specifically lines 31-35) for each IP address that has been translated (e.g., see col. 5, lines 33-42 regarding updating for each entry 70 that is operable).

Regarding claim 12, Rao teaches the set of translation rules comprises a first set of translation rules that correspond to a first customer (e.g., one of hosts 20, see FIG. 1) and a second set of translation rules that correspond to a second customer (e.g., another of hosts 20) (e.g., see col. 5, lines 33-42 regarding a new application host 20 corresponding to application entry 72 in application table 68).

Regarding claim 13, Rao teaches the set of translation rules that correspond to the first customer (e.g., according to the application 72 of the first host 20) are unique with respect to the set of translation rules that correspond to the second customer (e.g., another of hosts 20 corresponding to a new application, see col. 5, lines 33-42).

Regarding claim 14, Srisuresh teaches the packet is an SNMP packet (e.g., see col. 3, lines 50-67). As discussed above, the teachings of Srisuresh provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility (e.g., see col. 2, lines 45-65). Thus, at the time of the invention it would have been obvious to apply the teachings of Srisuresh to the method of Rao in order to provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility.

Regarding claim 19, Rao teaches the method discussed above regarding claim 18, and further, while Rao may not specifically disclose receiving the packet at a network address

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translator (NAT), as discussed above, Rao utilizes a port address translator (PAT) (col. 3, lines 40-48) but also discloses that the method may utilize other suitable types of addressing and translation systems (col. 5, lines 46-50). Srisuresh also teaches a method of packet processing including address translation, and specifically, teaches port address translation (NAPT) is a particular type of NAT (col. 4, lines 44-54) and that generally, a method utilizes NAPT for customers who are assigned only one globally unique IP address and NAT for customers who are assigned a set of globally unique IP addresses (col. 3, lines 37-42). Additionally, the teachings of Srisuresh provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility (e.g., see col. 2, lines 45-65). Thus, at the time of the invention it would have been obvious to apply the teachings of Srisuresh to the method of Rao, such that the translator comprises a NAT for operation with customers who are assigned a set of globally unique IP addresses, in order to provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility.

Regarding claim 30, Rao teaches the method discussed above regarding claim 18, however, may not specifically disclose SNMP. As discussed, Srisuresh also teaches address translation and specifically teaches a packet is an SNMP packet (e.g., see col. 3, lines 50-67). As discussed above, the teachings of Srisuresh provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility (e.g., see col. 2, lines 45-65). Thus, at the time of the invention it would have been obvious to apply the teachings of Srisuresh to the method of Rao in order to provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility.

Regarding claim 34, Rao teaches an address translator device (e.g., translation engine 60) that translates at least one of a source address (e.g., source address 43) and a destination address (e.g., destination address 44) located in a packet header (e.g., header 34), and translates IP addresses (e.g., see steps 102, 104 and 106 in FIG. 4 and col. 5, line 60 – col. 6, line 50) located in a payload (e.g., payload 36) of the packet if at least one of the source address (e.g., source address 42) and the destination address (e.g., destination address 44) has been previously translated by the device (e.g., by its listing in application table 68, see col. 5, line 60 – col. 6, line 7; see also col. 5, lines 33-42 regarding updating application table 68 for each entry 70 that is operable). Also, as discussed above, while Rao may not specifically disclose the device is a network address translator (NAT), as discussed above, Rao utilizes a port address translator (PAT) (col. 3, lines 40-48) but also discloses that the method may utilize other suitable types of addressing and translation systems (col. 5, lines 46-50). Srisuresh also teaches a method of packet processing including address translation, and specifically, teaches port address translation (NAPT) is a particular type of NAT (col. 4, lines 44-54) and that generally, a method utilizes NAPT for customers who are assigned only one globally unique IP address and NAT for customers who are assigned a set of globally unique IP addresses (col. 3, lines 37-42). Additionally, the teachings of Srisuresh provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility (e.g., see col. 2, lines 45-65). Thus, at the time of the invention it would have been obvious to apply the teachings of Srisuresh to the method of Rao, such that the translator comprises a NAT for operation with customers who are assigned a set of globally unique IP addresses, in order to provide reduced cost of equipment and reconfigurations while accommodating a plurality of

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different protocols for improved flexibility. Furthermore, while Rao in view of Srisuresh may not specifically disclose separating operations of the device between a particular first device and a particular second device, it is generally considered to be within the ordinary skill in the art to shift the location of parts absent a showing of unexpected results. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to shift the location of translation of the packet header from the device to a particular first device, and to shift the location of translation of IP addresses in a payload from the device to a particular second device, since it is generally considered to be within the ordinary skill in the art to shift the location of parts absent a showing of unexpected results. The contention of obvious choice in design can be overcome if Applicant establishes unexpected results. In re Japikse, 86 USPQ 70 (CCPA 1950).

Regarding claim 35, Rao teaches a detector circuit (e.g., via input to translation engine 60) configured to determine if at least one of the source address and the destination address located in the packet header has been previously translated to a normalized IP address (e.g., determining if source address 42 or destination address 44 is listed in application table 68, see col. 5, line 60 – col. 6, line 50; see also FIG. 4); a scanner circuit (e.g., via steps 96 and 98 with comparing by the engine 60) configured to search the payload of the packet for IP addresses if it is determined that at least one of the source address and the destination address located in the packet header has been previously translated (e.g., see steps 96 and 98); and a payload translator circuit (e.g., via step 104) configured to translate IP addresses by replacing at least one occurrence of an IP address located in the payload of the packet (e.g., see step 104).

Regarding claim 37, Rao teaches the scanner circuit is further configured to: identify an occurrence of an IP address in the payload of the packet (e.g., see col. 5, line 60 – col. 6, line 20);

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determine a corresponding normalized IP address (e.g., translated address, see col. 6, lines 21-30) for the occurrence of the IP address using the set of translation rules (e.g., record 70 in application table 68) that the at least one of the source address and the destination address was determined to be present in; and repeat identifying and determining for each occurrence of an IP address in the payload (e.g., see col. 6, lines 27-30 regarding translating a plurality of IP addresses as opposed to only a single occurrence of an IP address); wherein translating IP addresses comprises replacing at least one occurrence of an IP address located in the payload of the packet with the corresponding normalized IP address (e.g., see col. 6, lines 31-33).

Regarding claim 45, Srisuresh teaches the packet is an SNMP packet (e.g., see col. 3, lines 50-67). As discussed above, the teachings of Srisuresh provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility (e.g., see col. 2, lines 45-65). Thus, at the time of the invention it would have been obvious to apply the teachings of Srisuresh to the method of Rao in order to provide reduced cost of equipment and reconfigurations while accommodating a plurality of different protocols for improved flexibility.

Regarding claim 48, Rao teaches the device comprises a router (e.g., see col. 3, lines 5-48 regarding router 16).

9. Claims 15, 31 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao in view of Srisuresh, further in view of U.S. Patent No. 6,775,277 to Li et al.

Regarding claims 15, 31 and 46, Rao in view of Srisuresh teach the method discussed above regarding claims 14, 30 and 45, respectively, however, may not specifically disclose the

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SNMP packet IP addresses are identified by a unique object identifier located within a Management Information Base (MIB). Li also teaches a method of processing a packet including address translation (e.g., see abstract), and further, specifically discloses packet addresses are identified by a unique object identifier located within an MIB (e.g., see col. 4, line 5 – col. 6, line 47 regarding MIBs and unique IDs). Also, the teachings of Li provide address translation for both hosted and non-hosted endpoints with increased reliability and efficiency (e.g., see col. 1, line 20 – col. 2, line 35). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the network translation teachings of Li to the network translation method of Rao in view of Srisuresh in order to provide address translation for both hosted and non-hosted endpoints with increased reliability and efficiency.

10. Claims 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao in view of U.S. Patent No. 5,793,763 to Mayes et al.

Regarding claims 16 and 32, Rao teaches the method discussed above regarding claim 1, however, may not specifically disclose the packet header is previously translated by a border firewall. Mayes also teaches a method of processing a packet with address translation, and further, specifically discloses a packet header is translated by a border firewall (e.g., see col. 2, lines 6-29). Also, the teachings of Mayes provide address translation with increased security (e.g., see col. 2, lines 6-29). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the address translation teachings of Mayes to the address translation method of Rao in order to provide increased security.

11. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rao in view of Srisuresh, further in view of Mayes.

Regarding claim 47, Rao in view of Srisuresh teaches the method discussed above regarding claim 34, however, may not specifically disclose the packet header is previously translated by a border firewall. Mayes also teaches a method of processing a packet with address translation, and further, specifically discloses a packet header is translated by a border firewall (e.g., see col. 2, lines 6-29). Also, the teachings of Mayes provide address translation with increased security (e.g., see col. 2, lines 6-29). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the address translation teachings of Mayes to the address translation method of Rao in view of Srisuresh in order to provide increased security.

Allowable Subject Matter

12. Claims 5-10, 21, 23-26, 36 and 38-44 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter:

claim 5 recites: determining if at least one of the source address and the destination address is present in a header translation set of translation rules if it is determined that at least one of the source address and the destination address is present in the set of translation rules; wherein at least one of the source address and the destination address has been previously

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translated if it is determined that the source address and the destination address are not present in the header translation set of translation rules, which was not found in a search of related prior art;

claims 6-8 depend upon the limitations of claim 5, and are therefore comprise allowable subject matter for the same reason discussed above regarding claim 5, wherein claim 8 should be corrected as discussed above to depend upon claim 5 instead of claim 3;

claim 9 recites: determining if at least one of the source address and the destination address is present in a plurality of sets of translation rules; and discarding the packet if it is determined that at least one of the source address and the destination address is present in a plurality of sets of translation rules, which was not found in a search of related prior art;

claim 10 recites a limitation similar to that of claim 9 and therefore also comprises allowable subject matter;

claims 21 and 36 recite limitations similar to those recited in claim 5 and therefore comprise allowable subject matter for the same reasons as discussed above regarding claim 5; and

claims 23-26 and 38-44 depend upon claim 21 or claim 36, respectively, and therefore comprise allowable subject matter for the same reasons discussed above regarding claims 21 and 36, wherein claim 23 should be corrected as discussed above to depend upon claim 21 instead of claim 22.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M. Philpott whose telephone number is 571.272.3162. The examiner can normally be reached on M-F, 9:00am-5:00pm.

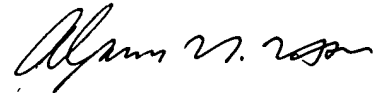
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on 571.272.3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Justin M Philpott



ALPUS H. HSU
PRIMARY EXAMINER